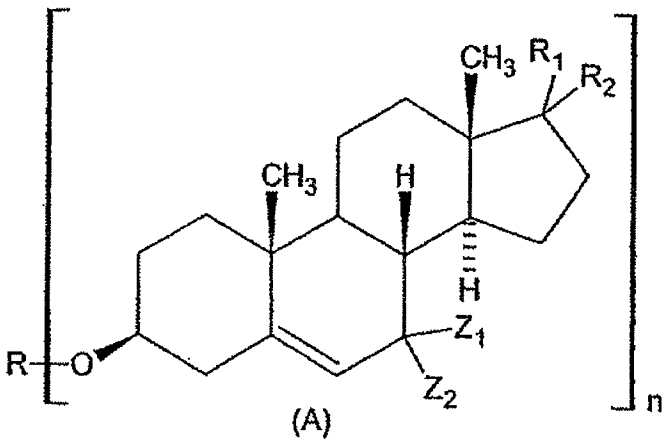
CLAIMS

1. A compound characterized in that it corresponds to formula (A):



(A)

in which

- n = 1, 2,
- R_1, R_2 represent =O or a group -O-W-O- in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group; preferably, W represents $-CH_2-CH_2-$,
- Z_1, Z_2 represent =O, (H,OH) or (H,H), (H, R_5CO_2-), R_5 being chosen from the compounds corresponding to the formula R_4Ph, R_4 being chosen from H-, NO_2-, CH_3O-, CN-, Cl-, Br- and F-, and R_5 possibly also being chosen from the group consisting of: CH_3-, $ClCH_2-$, Cl_2CH-, Cl_3C- and CH_3CH_2-;
- R represents a group of formula (IIa)

$$(HO)_m-OC-(X)-CO-$$

(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls

and C_8-C_{20} aralkyls, it being understood that, when n = 1 and Z_1, Z_2 represents (H,H), X is different from $-(CH_2)_2$ and from $-(CH_2)_6-$ and, when n = 2 and Z_1, Z_2 represents (H,H), X is different from $-(CH_2)-$, from $-(CH_2)_2-$, from $-(CH_2)_3-$ and from $-(CH_2)_4-$.

2. A method for synthesizing DHEA derivatives chosen from 7α-OH-DHEA, 7β-OH-DHEA and 7-oxo-DHEA, this method using DHEA as starting product, this method being characterized in that:

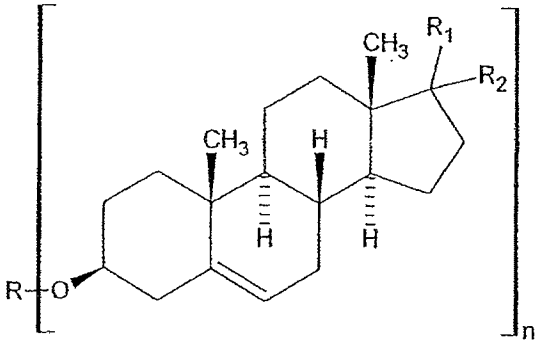
(1) in a first step, the ketone function in the 17-position of the DHEA is optionally protected with a protective group;

(2) in a second step, the hemiester (n = 1) or the diester (n = 2) is prepared between the alcohol in the 3-position of the compound obtained in step (1) and a dicarboxylic acid chosen from those corresponding to formula (II):

HOOC-X-COOH

(II)

so as to obtain a compound as claimed in claim 1, corresponding to formula (III):



(III)

in which:

- n represents an integer chosen from 1 and 2;
- R_1, R_2 represent a group =O or a group -O-W-O- in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8

alkyl group;

- R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

(IIa)

in which:

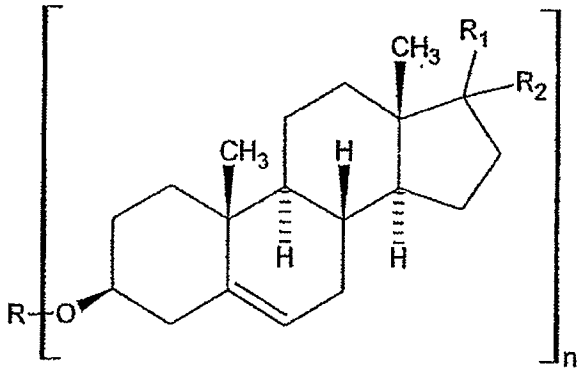
m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

3. The method as claimed in claim 2, characterized in that the DHEA is protected in the 17-position in the form of a cyclic acetal by treatment with ethylene glycol, at the reflux of toluene, in the presence of para-toluenesulfonic acid using a Dean Stark apparatus.

4. The method as claimed in either one of claims 2 and 3, characterized in that the dicarboxylic acid is chosen from:
oxalic acid, succinic acid, glutaric acid, suberic acid, maleic acid, phthalic acid; isophthalic acid, terephthalic acid, 1,2-phenylenediacetic acid, 1,3-phenylenediacetic acid and 1,4-phenylenediacetic acid.

5. The product as claimed in claim 1, which can be obtained by means of the method as claimed in any one of claims 2 to 4, characterized in that it corresponds to formula (III):



(III)

in which:

n represents an integer chosen from 1 and 2;

R_1, R_2 represent a group =O or a group -O-W-O- in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;

R represents a group of formula (IIa)

$(HO)_m$-OC-(X)-CO-

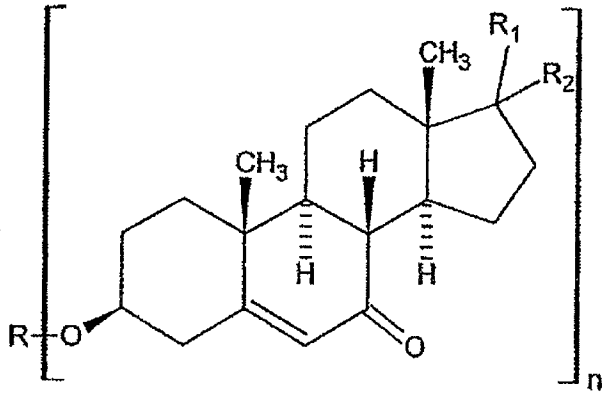
(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls, it being understood that, when n = 1, X is different from $-(CH_2)_2-$ and from $-(CH_2)_6-$ and, when n = 2, X is different from $-(CH_2)-$, from $-(CH_2)_2-$, from $-(CH_2)_3-$ and from $-(CH_2)_4-$.

6. The method as claimed in any one of claims 2 to 4, characterized in that it also comprises a step of allylic oxidation on the carbon in the 7-position of the compound corresponding to formula (III), so as to obtain the ketone of formula (IV):



(IV)

in which:

n represents an integer chosen from 1 and 2;

R_1, R_2 represent a group =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;

R represents a group of formula (IIa)

$(HO)_m$-OC-(X)-CO-

(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

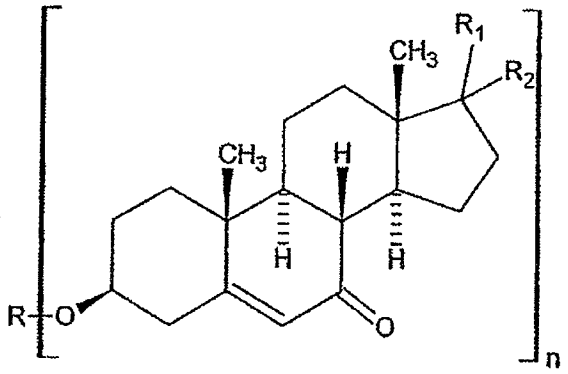
7. The method as claimed in claim 6, characterized in that the compound of formula (III) is treated by photooxidation by means of a lamp and with sparging with oxygen or with compressed air in the presence of rose Bengal, followed by treatment with acetic anhydride in pyridine.

8. The method as claimed in claim 6, characterized in that the compound of formula (III) is treated with N-hydroxyphthalimide with sparging with oxygen or with compressed air.

9. The method as claimed in any of one of claims 6 to

8, for preparing 7-oxo-DHEA, characterized in that it also comprises a step during which the compound of formula (IV) is treated so as to remove the protective groups from the alcohol in the 3-position and, optionally, from the ketone in the 17-position.

10. The compound as claimed in claim 1, which can be obtained by means of the method as claimed in any one of claims 6 to 8, characterized in that it corresponds to formula (IV):



(IV)

in which:

- n = 1, 2,
- R_1, R_2 represent =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group,
- R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

(IIa)

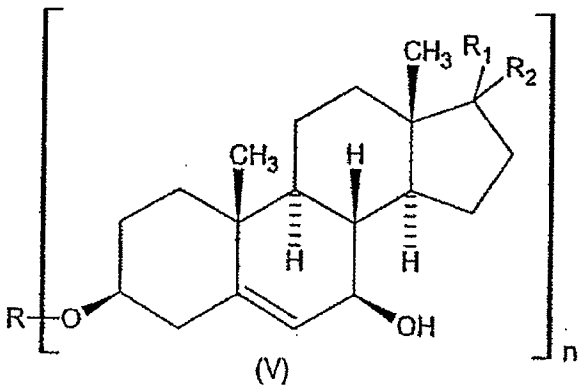
in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

11. The method as claimed in claim 6, for preparing a DHEA derivative, characterized in that it also comprises a step during which the compound of formula

(IV) is diastereoselectively reduced to give the 7β-OH derivative corresponding to formula (V):



(V)

in which:

n represents an integer chosen from 1 and 2;

R_1, R_2 represent a group =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;

R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

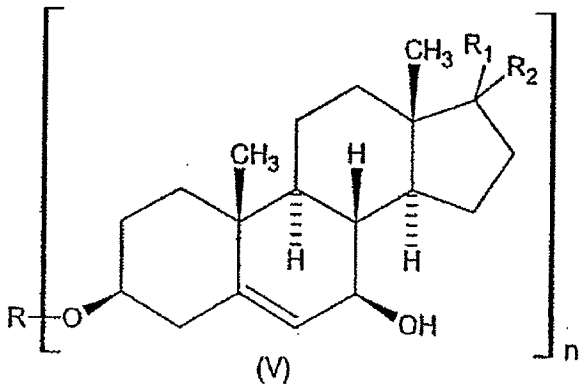
X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

12. The method as claimed in claim 11, characterized in that the reduction is carried out by treatment with $NaBH_4$ in the presence of cerium chloride.

13. The method as claimed in claim 11 or claim 12, for preparing 7β-OH-DHEA, characterized in that it also comprises a step during which the acetal in the 17-position and the ester in the 3-position of the compound of formula (V) are deprotected.

14. The compound as claimed in claim 1, which can be

obtained by means of the method as claimed in any one of claims 11 to 13, characterized in that it corresponds to formula (V):



(V)

in which:

- n = 1, 2,
- R_1, R_2 represent =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;
- R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

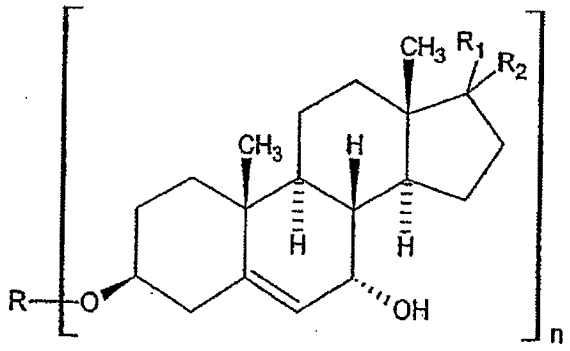
(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

15. The method as claimed in claim 11, for preparing a DHEA derivative, characterized in that it also comprises a step during which the compound of formula (V) is treated according to the Walden method or the Mitsunobu method, to give a 7α-OH compound corresponding to formula (VI):



(VI)

in which:

n represents an integer chosen from 1 and 2;

R_1, R_2 represent a group =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;

R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

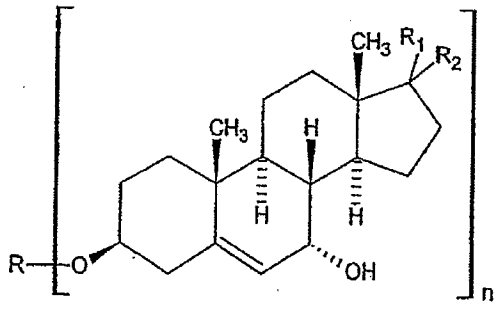
(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

16. The method as claimed in any one of claims 6 to 8, for preparing a DHEA derivative, characterized in that it comprises a step during which the compound of formula (IV) is diastereoselectively reduced to give the 7α-OH derivative corresponding to formula (VI):



(VI)

in which:

n represents an integer chosen from 1 and 2;

R_1, R_2 represent a group =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;

R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

(IIa)

in which:

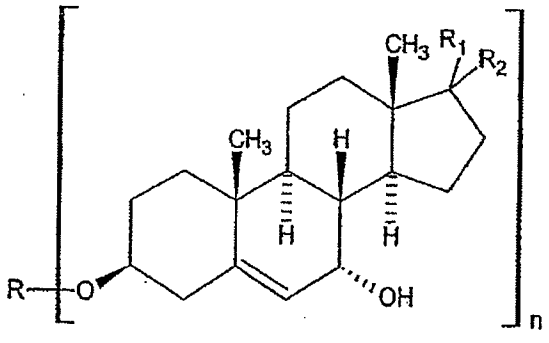
m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from $-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

17. The method as claimed in claim 16, characterized in that the reduction is carried out using lithium tri-*sec*-butylborohydride.

18. The method as claimed in claim 15 or claim 16, for preparing 7α-OH-DHEA, characterized in that it also comprises a step during which the acetal in the 17-position and the ester in the 3-position of the compound of formula (VI) are deprotected.

19. The compound as claimed in claim 1, which can be obtained by means of the method as claimed in claim 16 or claim 17, characterized in that it corresponds to formula (VI):



(VI)

in which:

- n = 1, 2,
- R_1, R_2 represent =O or a group -O-W-O-, in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group;
- R represents a group of formula (IIa)

$$(HO)_m\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

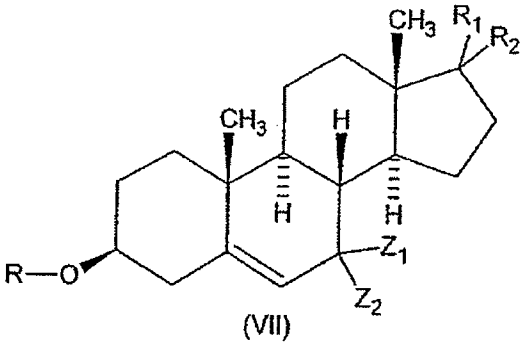
(IIa)

in which:

m represents 0 when n = 2 and m represents 1 when n = 1,

X represents a single bond or a group chosen from -(CH_2)-, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls.

20. A method for preparing a DHEA derivative, this method being characterized in that it comprises a step during which a compound corresponding to formula (VII):



(VII)

in which

- R_1, R_2 represent =O or a group -O-W-O- in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group; preferably, R_1, R_2 represents -O-CH_2-CH_2-O-,
- R represents a group of formula (IIb)

$$HO\text{-}OC\text{-}(X)\text{-}CO\text{-}$$

(IIb)

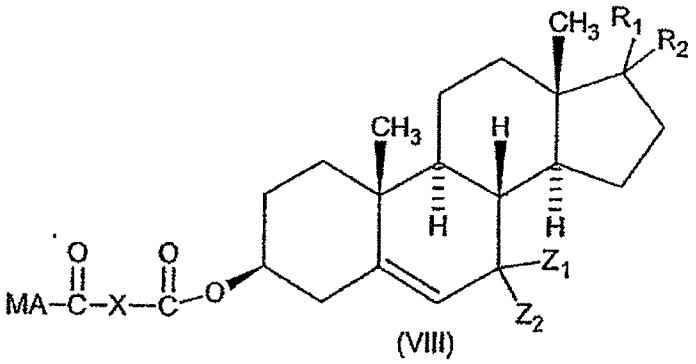
in which X represents a single bond or a group chosen from -(CH_2)-, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20}

aryls and C_8-C_{20} aralkyls,

- Z_1, Z_2 represent =O, (H, -OH) or (H,H),

is reacted, via its carboxylic acid function, with a cosmetically or dermatologically active molecule comprising at least one alcohol function or one amine function, so as to form either an ester function or an amide function.

21. A compound which can be obtained by means of the method as claimed in claim 20, characterized in that it corresponds to formula (VIII):



(VIII)

in which:

- R_1, R_2 represent =O or a group -O-W-O- in which W represents a saturated or unsaturated, linear, branched or cyclic C_2-C_8 alkyl group; preferably, R_1, R_2 represents $-O-CH_2-CH_2-O-$,
- X represents a single bond or a group chosen from:

$-(CH_2)-$, saturated or unsaturated, linear, branched or cyclic C_2-C_{20} alkyls, C_6-C_{20} aryls and C_8-C_{20} aralkyls,

- Z_1, Z_2 represent =O, (H, -OH) or (H,H),
- MA denotes a cosmetically active molecule chosen from retinol, an α-hydroxy acid, an α-keto acid, α-bisabolol, or *trans*-farnesol, α-tocopherol and a natural amino acid.

22. A cosmetic and/or dermatological composition comprising at least one compound of formula (VIII) as claimed in claim 21, in a cosmetically and/or dermatologically acceptable carrier.

23. The use of a compound corresponding to formula (VIII) as claimed in claim 21, for preparing a cosmetic or dermatological composition intended to prevent and/or delay and/or treat the appearance of signs of skin aging.